

Notice of Allowability

Application No.

09/995,781

Examiner

Erick Rekstad

Applicant(s)

ABIKO ET AL.

Art Unit

2621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed December 27, 2006.
2. ☒ The allowed claim(s) is/are 1-7, 9-18 and 20-24.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date 9/11/06
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413),
Paper No./Mail Date _____.
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

DETAILED ACTION

This is a Notice of Allowance for Application no. 09/995,781 in response to the amendment filed on December 27, 2006 wherein claims 1-7, and 9-24 are presented for examination.

Response to Arguments

Applicant's arguments, see Page 9 of arguments filed December 27, 2006, with respect to independent claims 1, 15, 19, 23, and 24 have been fully considered and are persuasive. The rejection of claims 1-7, 9-24 has been withdrawn.

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with J. Dandall Beckers on April 11, 2007.

The application has been amended as follows:

Cancel claim 19.

Replace claims 10, 11, 12, 20 and 21 as shown below.

10. (Currently Amended) The moving image processing device according to claim 1, wherein said information collecting unit collects an appearance interval of a frame that becomes a scene change within a frame group which satisfies a condition that the number of bidirectionally predicted regions in consecutive frames are small, and outputs the appearance interval of the frame to said evaluation function calculating means as a parameter of the evaluation function.

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11. (Currently Amended) The moving image processing device according to claim 10, further comprising:

a scene change information storing unit storing, as scene change information, the first and the second information of a frame within a frame group which satisfies a condition that the number of bidirectionally predicted regions in consecutive frames are small, and the appearance interval of the frame which becomes a scene change.

12. (Currently Amended) The moving image processing device according to claim 11, wherein:

said evaluation function calculating unit calculates the value of the evaluation function by using the scene change information read from said scene change information storing unit; and

said scene change determining unit determines a scene change by making a comparison between the calculated value of the evaluation function and a threshold value.

20. (Currently Amended) The moving image processing method according to claim 15, wherein the evaluation function calculated in the calculating includes, as a parameter, the number of bidirectionally predicted regions having both a forward prediction motion vector and a backward prediction motion vector in each frame within the frame group.

21. (Currently Amended) The moving image processing method according to claim 15, further comprising:

collecting an appearance interval of a frame that becomes a scene change within a frame group which satisfies a condition that the numbers of bidirectionally predicted regions in consecutive frames are small, and

wherein the evaluation function calculated in the calculating includes the appearance interval of the frame as a parameter.

Allowable Subject Matter

Claims 1-7, 9-18, 20-24 are allowed.

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The following is an examiner's statement of reasons for allowance: After a further search and a thorough examination of the present application and in light of the Applicant's arguments and in light of the prior art made of record, claims 1-7, 9-18, 20-24 are found to be in condition for allowance.

The claims are allowable over the prior art of record since the cited references taken individually or in combination fail to particularly disclose a device, method and computer-readable storage medium for processing moving images as claimed.

The closest prior art ('Scene Change Detection in a MPEG Compressed Video Sequence' by Meng et al.) discloses a similar moving image processing device, method and computer-readable storage medium. However, Meng fails to particularly teach or suggest "calculating a value of an evaluation function which includes the first and the second information collected by said information collecting unit as parameters only for a frame within a frame group which satisfies a condition that the numbers of bidirectionally predicted regions in consecutive frames are small". Wherein, the information collecting unit determines if a frame within a frame group satisfies a condition that the numbers of bidirectionally predicted regions in consecutive frames are small. The information collecting unit provides the evaluation function the parameters only for the frames which meet the above condition, so that the evaluation function performs the calculating using the parameters only for a frame within a frame group which satisfies the condition. This feature taken with the others in the claims overcome the prior art.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

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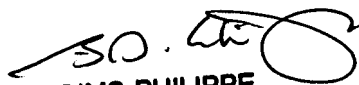
accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Erick Rekstad whose telephone number is 571-272-7338. The examiner can normally be reached on 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on 571-272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Erick Rekstad
Examiner
AU 2621
(571) 272-7338
erick.rekstad@uspto.gov



GIMS PHILIPPE
PRIMARY EXAMINER

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